

(19)



Europäisches Patentamt  
European Patent Office  
Office européen des brevets

(11) Publication number:

**0 281 390**  
**A3**

(12)

# EUROPEAN PATENT APPLICATION

(21) Application number: 88301839.2

(51) Int. Cl.<sup>5</sup>: **C07H 1/06 , C12Q 1/68 ,**  
**G01N 33/543**

(22) Date of filing: 02.03.88

(30) Priority: 02.03.87 US 20866

(43) Date of publication of application:  
07.09.88 Bulletin 88/36

(84) Designated Contracting States:  
**AT BE CH DE ES FR GB GR IT LI LU NL SE**

(88) Date of deferred publication of the search report:  
25.04.90 Bulletin 90/17

(71) Applicant: Lyle, J. Arnold Jr.  
5439 Noah Way  
San Diego California 92117(US)

Applicant: Nelson, Norman C.  
3639 Marlesta Drive  
San Diego California 92111(US)

Applicant: Reynolds, Mark A.  
3115-G Evening Way  
La Jolla California 92037(US)

Applicant: Waldrop III, Alexander A.  
9249 Village Glen Drive  
San Diego California 92123(US)

(72) Inventor: Lyle, J. Arnold Jr.  
5439 Noah Way  
San Diego California 92117(US)  
Inventor: Nelson, Norman C.  
3639 Marlesta Drive  
San Diego California 92111(US)  
Inventor: Reynolds, Mark A.  
3115-G Evening Way  
La Jolla California 92037(US)  
Inventor: Waldrop III, Alexander A.  
9249 Village Glen Drive  
San Diego California 92123(US)

(74) Representative: Goldin, Douglas Michael et al  
J.A. KEMP & CO. 14, South Square Gray's Inn  
London WC1R 5EU(GB)

**EP 0 281 390 A3**

(54) Polycationic supports for nucleic acid purification, separation and hybridization.

(57) Described herein is the use of polycationic solid supports in the purification of nucleic acids from solutions containing contaminants. The nucleic acids non-covalently bind to the support without significant binding of contaminants permitting their separation from the contaminants. The bound nucleic acids can be recovered from the support. Also described is the

use of the supports as a means to separate polynucleotides and hybrids thereof with a nucleotide probe from unhybridized probe. Assays for target nucleotide sequences are described which employ this separation procedure.



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number

EP 88 30 1839

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
P,Y	EP-A-0 221 308 (MILES LABORATORIES INC.) * Abstract; example 1; claims 1-8 * ---	1-109	C 07 H 1/06 C 12 Q 1/68 G 01 N 33/543
P,Y	EP-A-0 219 695 (MILES LABORATORIES INC.) * Whole document * ---	1-109	
Y	EP-A-0 102 661 (KATHOLIEKE UNIVERSITEIT, FACULTEIT DER WISKUNDE EN NATUURWETENSCHAPPEN) * Whole document * ---	1-109	
Y	EP-A-0 189 280 (DEKALB-PFIZER GENETICS) * Abstract; claims 1-6 * ---	1-109	
Y	WO-A-8 600 139 (DIAGNOSTIC RESEARCH LTD) * Abstract; page 17 - page 24, line 26; claims 1,13 * ---	1-109	
Y	EP-A-0 125 995 (ADVANCED MAGNETICS INC.) * Whole document * ---	1-109	
Y	WO-A-8 605 518 (SUMMERTON et al.) * Abstract; claims * -----	27,28, 30-33, 57-63, 90,91	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 21-01-1990	Examiner OSBORNE H.H.
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

EPO FORM 150 03.82 (P0401)

CGK00010308